National Stream Internet

Editing NHDPlus for Spatial Stream-network Models

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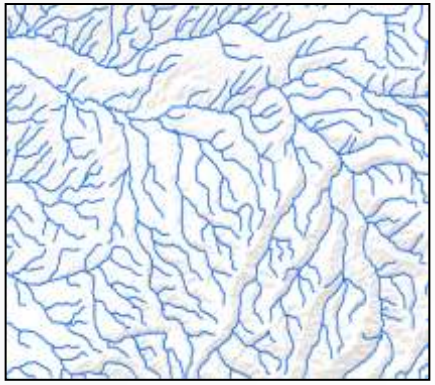
National Stream Internet

- Edited version of NHDPlusV2 Flowlines
- National in scope
- For use with Spatial Stream-network Models (SSNMs), STARS and SSN

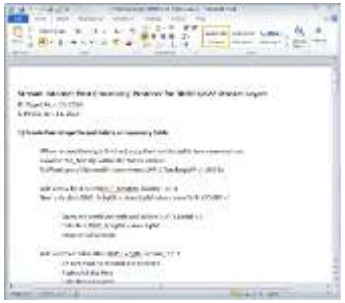


NHDPlus

Documented Procedures

- Preprocessing – Download, sorting, projecting
- **Reconditioning – Editing**
- Post-processing – Preparation for distribution
- Quality assurance





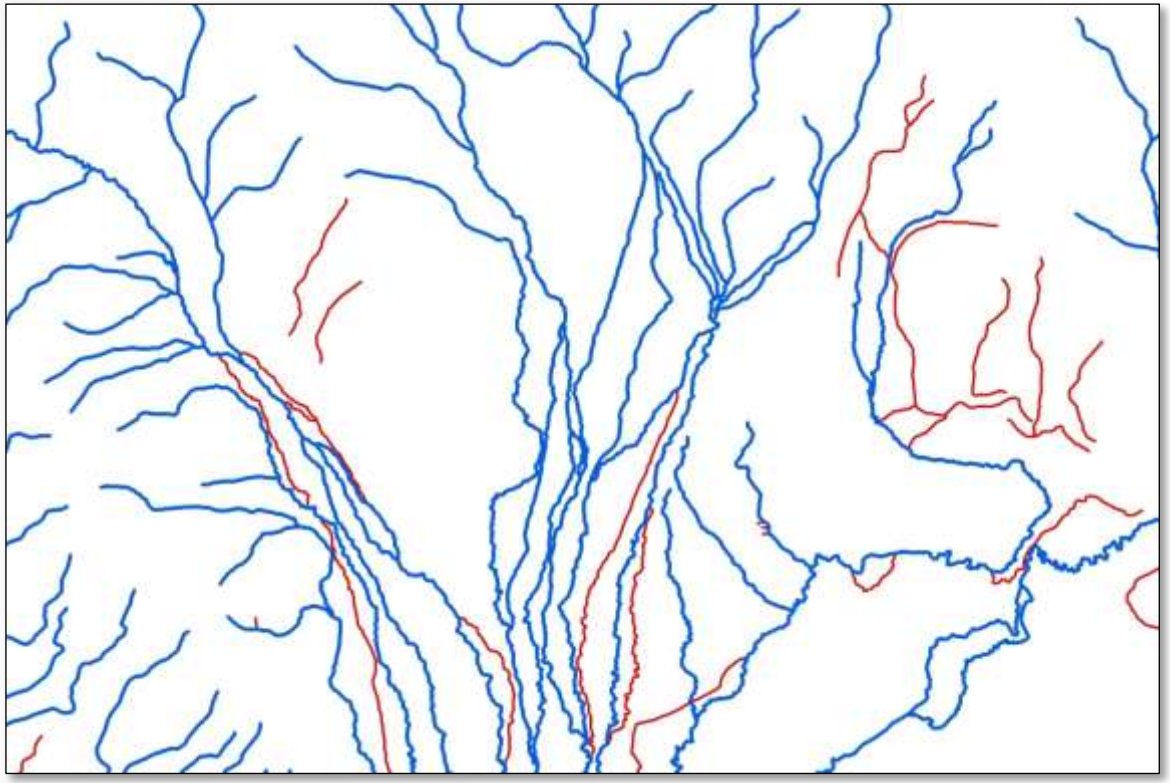

Reconditioning (Editing)

Edit using STARS (Spatial Tools for the Analysis of River Systems) and NHDPlus Attributes

- Uninitialized flow
- Braids and diverging flow
- Converging flow
- Complex confluences
- Outlets and sinks

Remove Uninitialized Flow

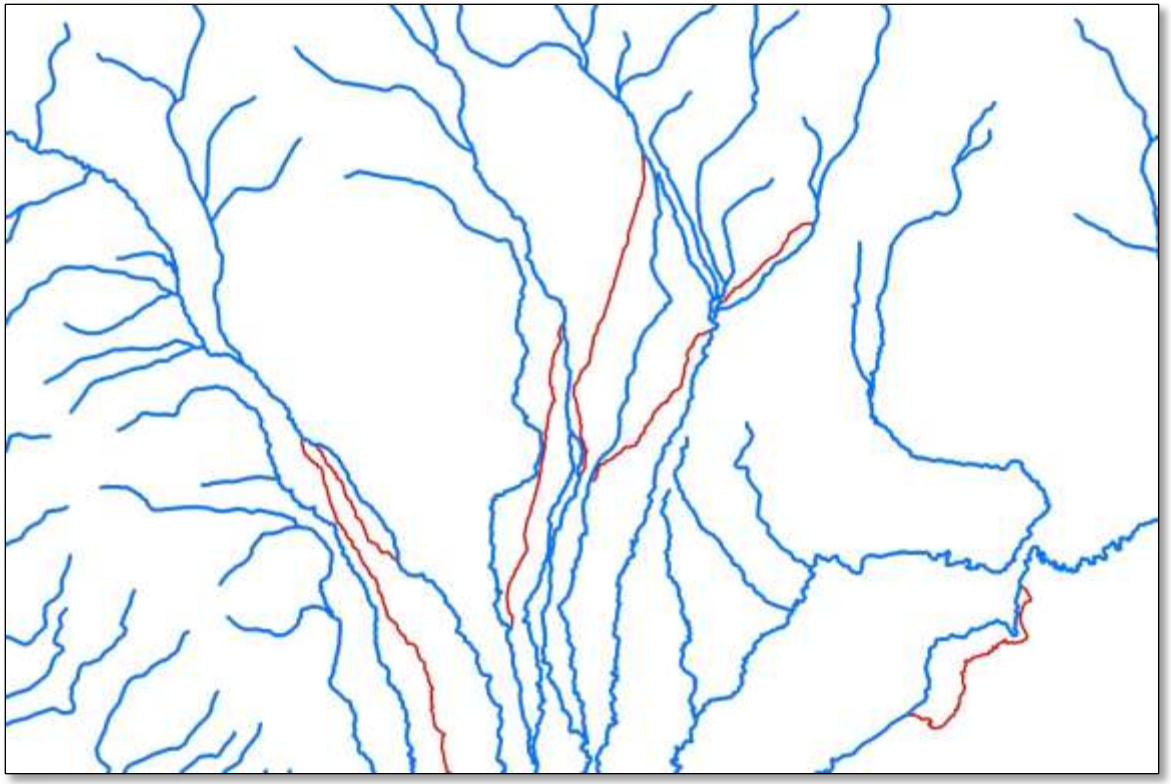
FLOWDIR = Uninitialized



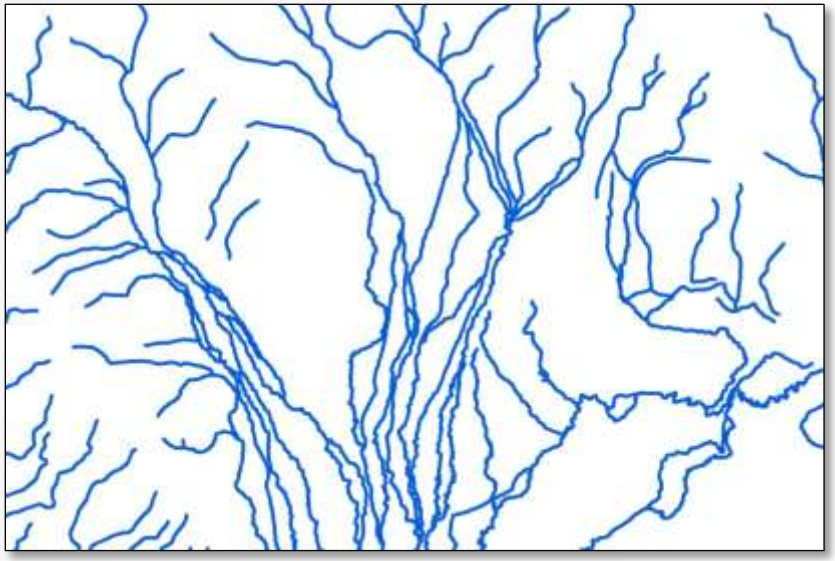
Features do not participate in Value Added Attribute network

Remove Braids and Diversions

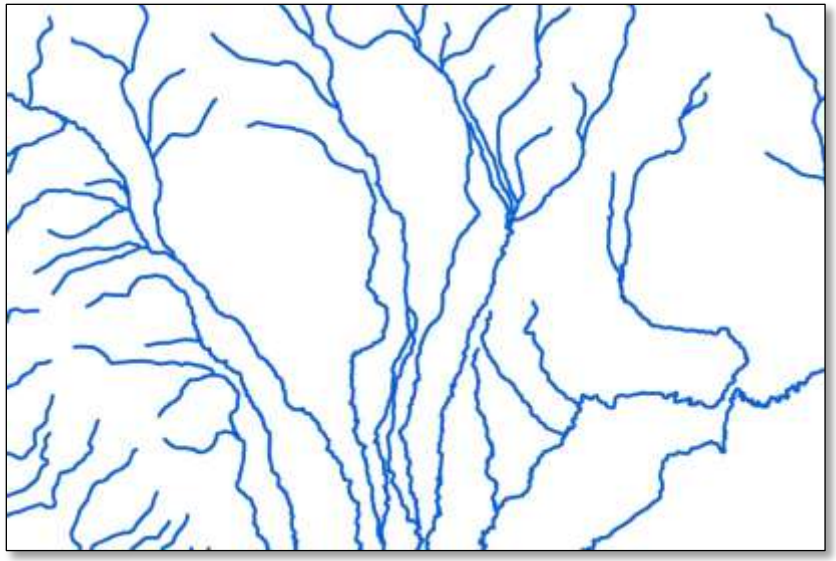
Keep StreamOrde = StreamCalc



Features Removed



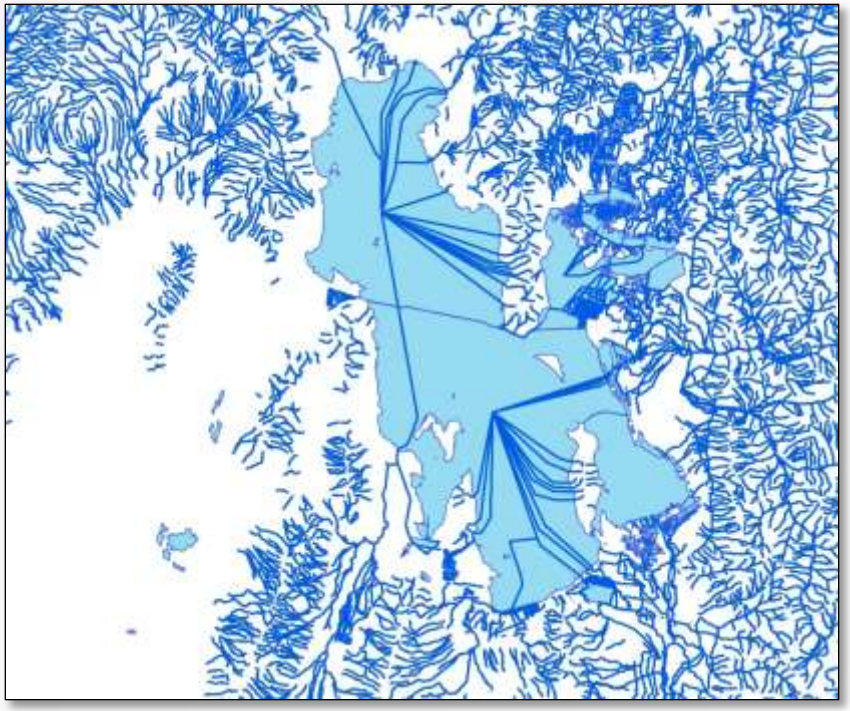
First

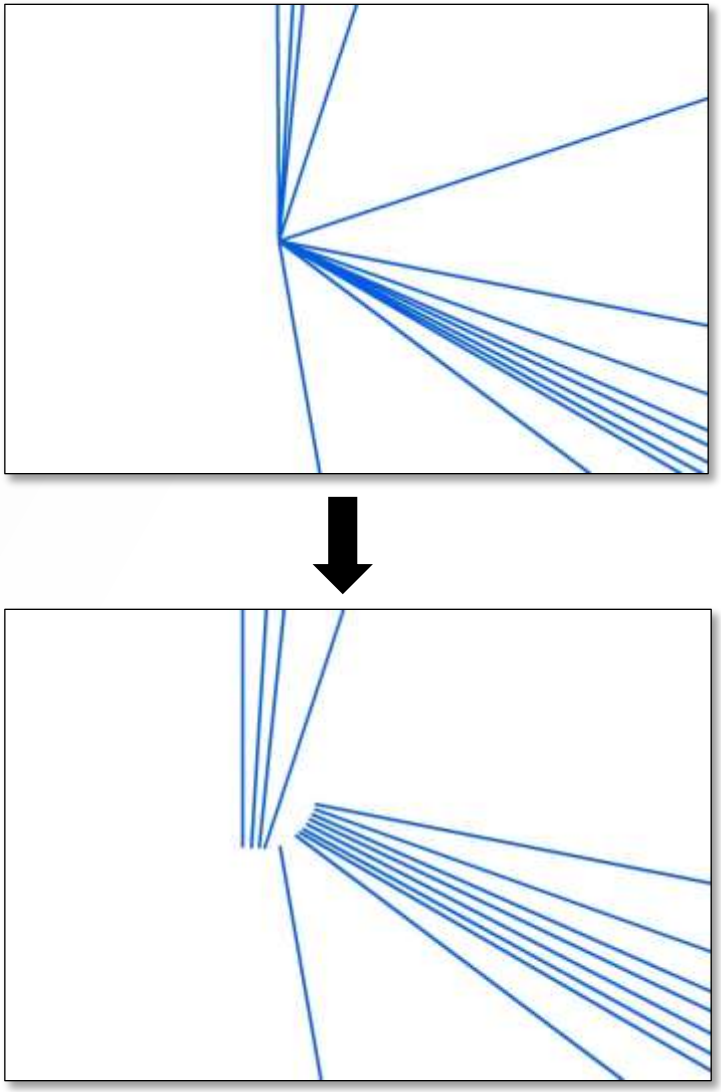


Final

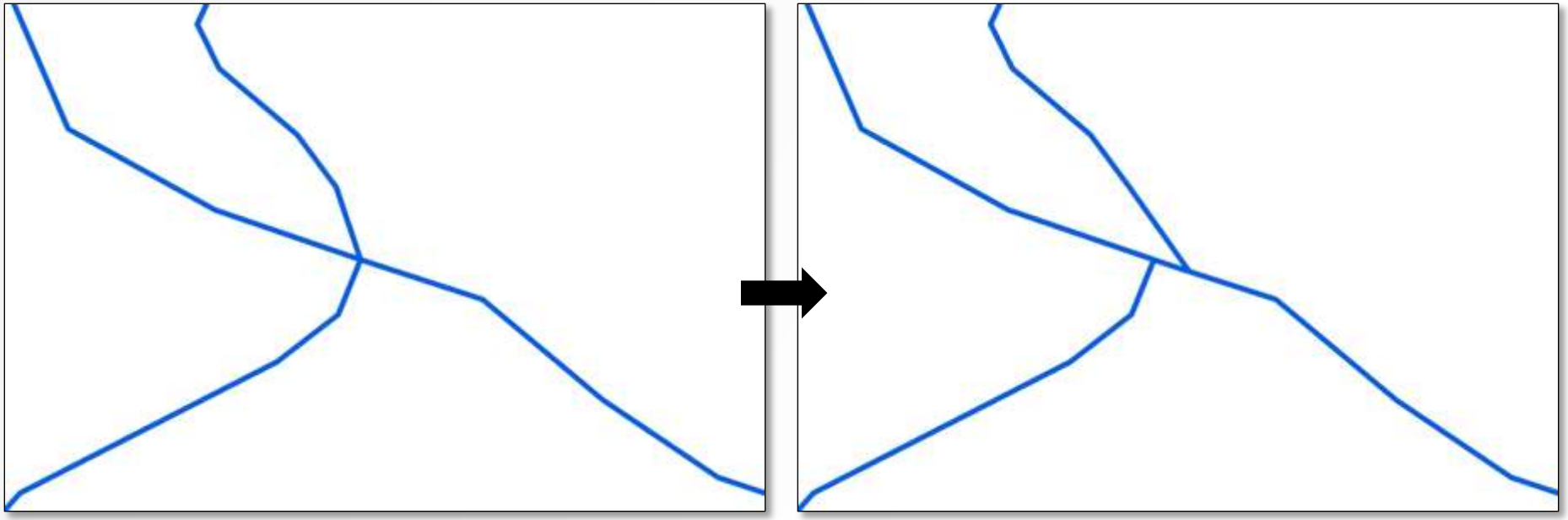
Edit Converging Streams

Sinks without Outlets



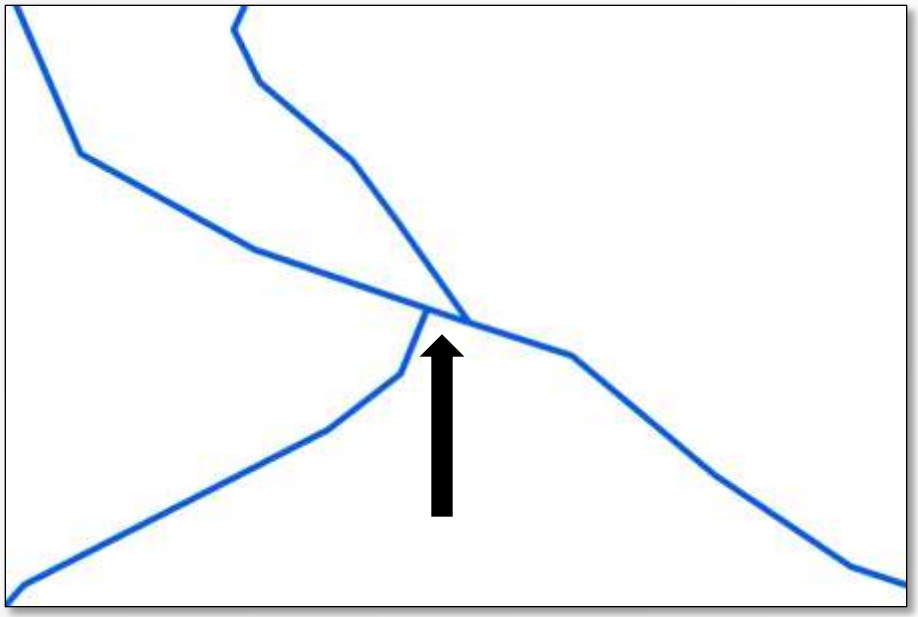


Edit Complex Confluences



- Move the smallest segment
- ~ 25 m downstream

Extra Feature



- Duplicate ComID
- No reach contributing area
- Length correction

Additional Attributes

Table

Flowline17a_NSI

FCODE	AreaSqKM	TotDASqKM	DUP_COMID	DUP_ArSqKM	DUP_Length
46006	0	97.8129	1	6.1002	0.026
55800	0	326.5155	1	4.8258	0.026
55800	0	59.6511	1	21.8988	0.026
55800	0	1092.3426	1	0.0315	0.025
46006	0	8.9649	1	0.6345	0.026
46006	0	25.4799	1	1.2177	0.026
46006	0	25.1928	1	1.9476	0.026
46006	0	173.0538	1	0.7614	0.026
46006	0	129.4668	1	2.7153	0.028
46006	0	51.4638	1	1.8738	0.026
46006	0	59.0652	1	1.737	0.026

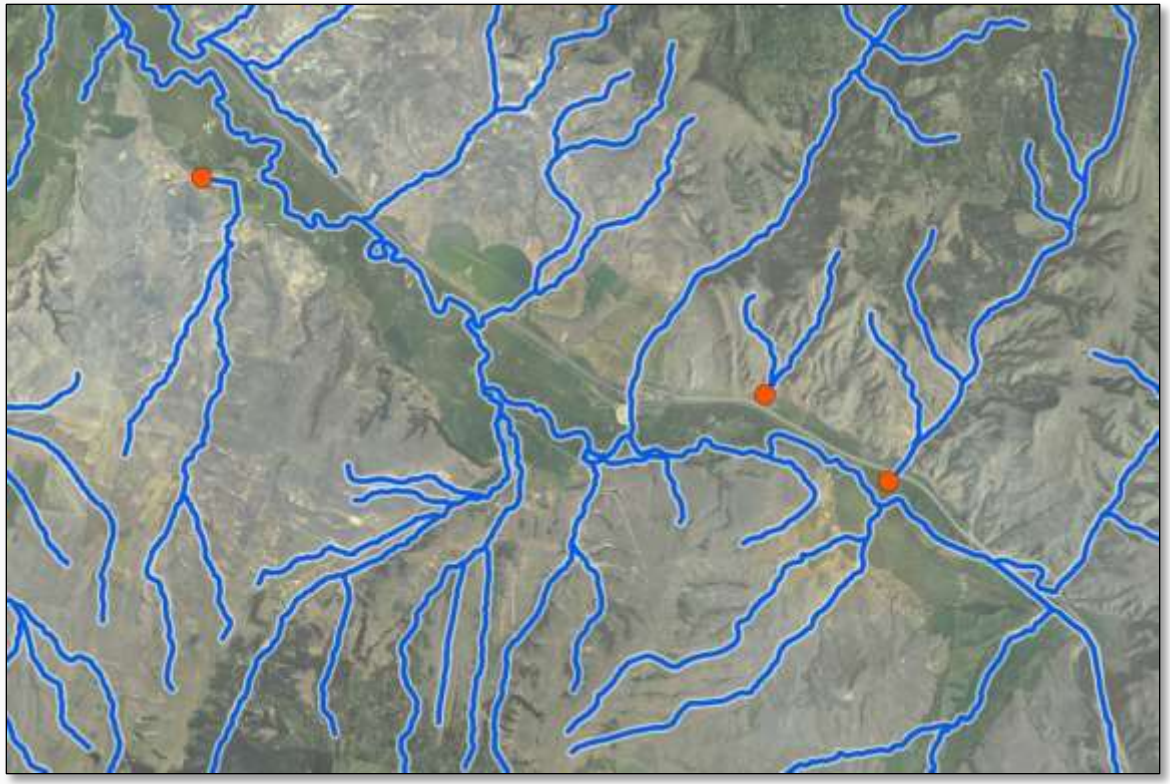
0 (0 out of 60325 Selected)

Flowline17a_NSI

- DUPCOM_ID = 1
- AreaSqKM = 0, DUP_ArSqKM = Original
- DUP_Length – Length recomputed

Outlets and Sinks

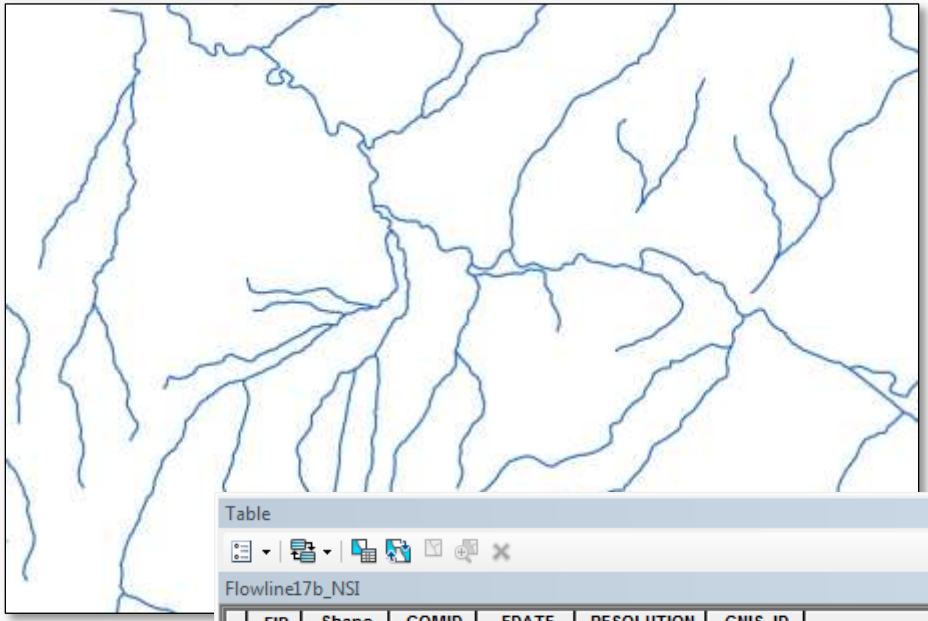
Isolated Networks in VAA Network



- Compare STARS outlets with TerminalFl = 1

Reconditioned NHDPlusV2

NSI Network



Table

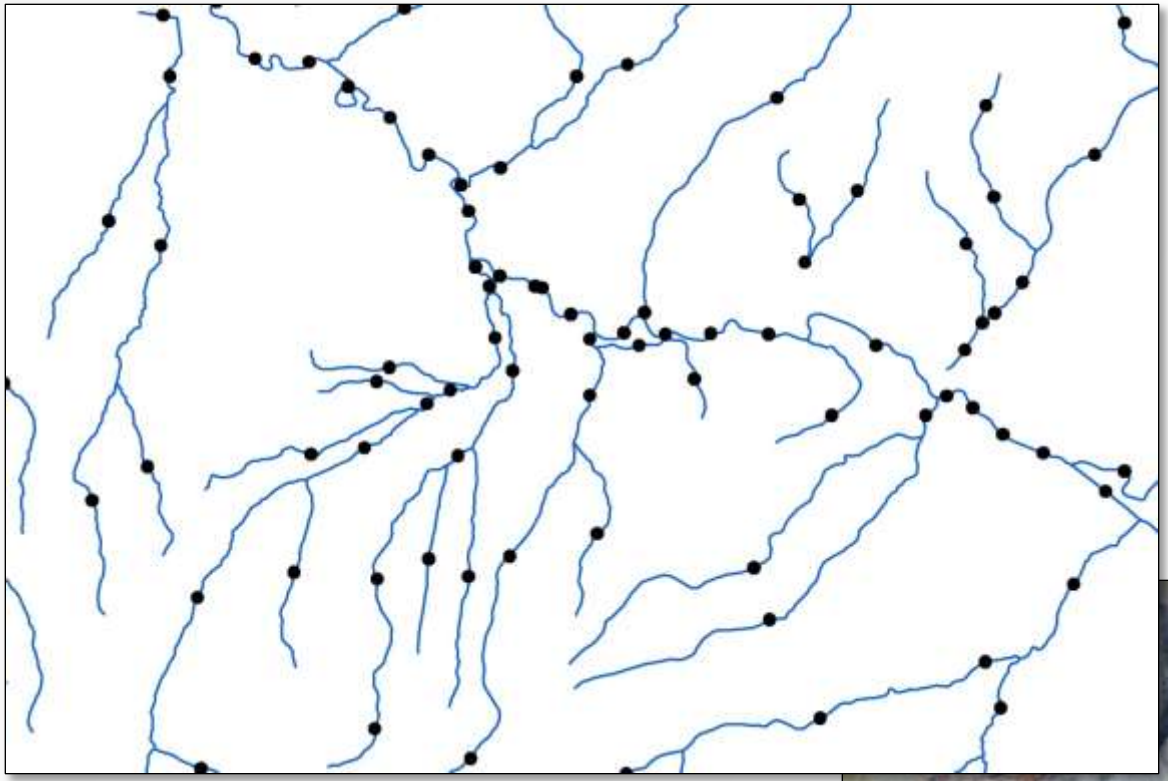
Flowline17b_NSI

FID	Shape	COMID	FDATE	RESOLUTION	GNIS_ID	GNIS_NAME	LENGTHKM	REACHCODE	FLOWDIR	FTYPE	FCODE
0	Polyline	2288260	2/28/2001	Medium	785256	Indian Creek	6.873	17010101000001	With Digitized	StreamRiver	46006
1	Polyline	2287759	9/6/2005	Medium	384301	Kootenai River	0.247	17010101000002	With Digitized	ArtificialPath	55800
2	Polyline	2287759	2/28/2001	Medium	391351	Star Creek	1.999	17010101000003	With Digitized	StreamRiver	46006
3	Polyline	2287759	2/28/2001	Medium	391351	Star Creek	0.055	17010101000003	With Digitized	ArtificialPath	55800
4	Polyline	2287759	2/28/2001	Medium	391351	Star Creek	0.947	17010101000004	With Digitized	StreamRiver	46006
5	Polyline	2287759	2/28/2001	Medium	391351	Star Creek	1.194	17010101000005	With Digitized	StreamRiver	46006
6	Polyline	2287760	2/28/2001	Medium	391351	Star Creek	1.227	17010101000006	With Digitized	StreamRiver	46006
7	Polyline	2287760	2/28/2001	Medium	391351	Star Creek	2.451	17010101000007	With Digitized	StreamRiver	46006
8	Polyline	2287760	2/28/2001	Medium	391351	Star Creek	5.707	17010101000008	With Digitized	StreamRiver	46006
9	Polyline	2287760	9/6/2005	Medium	384301	Kootenai River	2.654	17010101000009	With Digitized	ArtificialPath	55800

1 (0 out of 107157 Selected)

Flowline17b_NSI

Prediction Points

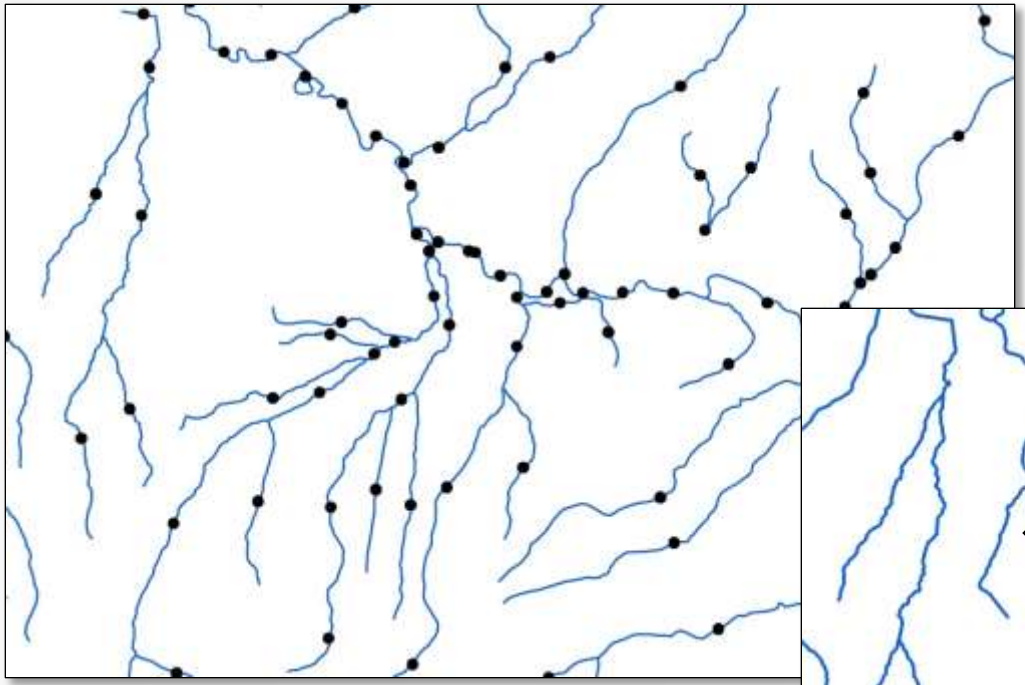


Necessary for SSN predictions of aquatic phenomena

Points and lines comprise NSI Dataset

Join Back to Original NHDPlus

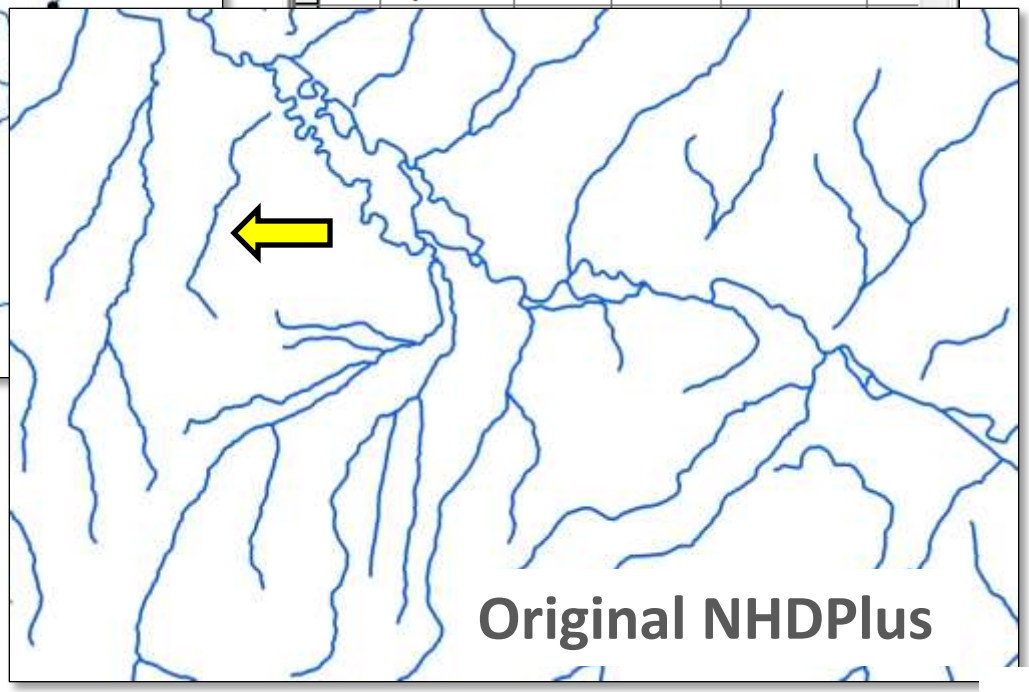
Points to NHDPlus through COMID



Table

NHDFlowline

FID	Shape	COMID	FDATE	RESOLUTION	GNI
0	Polyline ZM	9301535	0/8/1999	Medium	
1	Polyline ZM	2296812	3/2/2001	Medium	
2	Polyline ZM	2296813	3/2/2001	Medium	
3	Polyline ZM	2313599	2/7/2001	Medium	
4	Polyline ZM	2313599	2/7/2001	Medium	



Original NHDPlus

Not all NHD lines receive predictions

Products

- Stream line and prediction point shapefiles
- Website

- User Guide

Status Map

Target date: December 2015